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AUTHOR Huss, John D.; And Others
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ABSTRACT

The project provided the Arizona Migrant Child Education Program with the information needed to determine whether and to what extent the educational needs of Arizona's 10,000 migrant children were met by present educational programs. Examined were the population trends and characteristics, the educational assessment, the programs affecting the migrant families, and the relationship between societal conditions and the identified needs of migrant students in 1980. Data were obtained through on-site surveys of 233 migrant families, a battery of tests administered to 625 students, and interviews with 15 program administrators. This report summarizes the results, advances an action plan for meeting the needs of migrant students, and compares the results to those of an almost-identical study conducted in Florida. Findings included: the Arizona-based migrant farmworker work-force was predominantly Mexican American, with Other White being the second largest group; migrant students more often had economic needs and communication problems interfering with their education; deficiencies in the migrant student's achievement, though pronounced at age 7, became greater as he progressed through school; the 7- and 13-year-old migrants experienced the greatest deficiency in gross and fine motor development; former migrant students had a significantly greater likelihood of repeating a grade than nonmigrants; and Career Problem Solving was the only scale for which migrant students performed better than former migrant students. (NQ)

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# CHOICES NOT CIRCUMSTANCES

## AN EDUCATIONAL NEEDS ASSESSMENT FOR THE CHILDREN OF ARIZONA'S MIGRATORY AGRICULTURAL WORKERS

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

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## VOLUME I
## EXECUTIVE SUMMARY

MAY, 1977

CAROLYN WARNER, SUPERINTENDENT, ARIZONA DEPARTMENT OF EDUCATION

RC009988

This report was prepared for the Arizona Migrant Education Program by D. A. LEWIS ASSOCIATES, Inc., a metropolitan Washington, D. C.-based research, consulting, and publishing company. The firm has performed client assignments for federal agencies, over twenty states, and private organizations, including such research as comprehensive needs assessments for migrant education in two states, analysis of the movements of migrant pupils for five states, evaluation of the educational and economic impact of preschool day care centers, two separate benefits analyses of the Migrant Student Record Transfer System, and assessment of the functioning of migrant health programs. In addition to its research activities, the firm has published OLÉ II, an oral language assessment manual; a manual on Minimum Objectives for Teaching Basic Skills in Communications, Reading, and Mathematics; and The Migrant Educator, the national news publication for educators of migrant children.

The director of this project was JOHN D. HUSS whose professional specialty is the management improvement of public programs. Mr. Huss has been a government administrator and consultant for over fifteen years. He has directed studies ranging from a few person-days to twenty-five person-years of effort, including numerous organization and management analyses and program evaluations. On a similar comprehensive needs assessment previously conducted by D. A. Lewis Associates, Inc., for the State of Florida, he participated as a task leader and project coordinator; and he is currently in charge of a management and technical assistance contract for the U. S. Department of Justice on the illegal-alien situation in the United States. Mr. Huss has authored numerous Government reports and issuances, contributed to professional publications, and is an editor of an international bimonthly journal dedicated to advancing the state-of-the-art in futural research.

VOLUME I

# EXECUTIVE SUMMARY

Prepared by

D. A. LEWIS ASSOCIATES, INC.

FOR THE STATE OF ARIZONA DEPARTMENT OF EDUCATION

UNDER CONTRACT NUMBER A. G. 1305

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TITLE I MIGRANT

MAY 1977

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Grateful appreciation is extended to those individuals and agencies who provided the time and cooperation to enable us to obtain the necessary information to fulfill the objectives of this study. A special word of thanks is given to the migrant project schools and their students who, under severe time constraints and pressure, maintained a cooperative attitude during the course of the study.

The following are our key staff members who participated in the study:

John D. Huss, Project Director; Benjamin G. Davis, Task Leader; Ernesto A. Guerra, Task Leader; Dr. Raquel Crider, Research Associate; Ann C. Agnew, Research Associate; Kay Averkamp, Research Associate.

Four elementary and secondary school principals from Montgomery County, Maryland, supervised the administration of a battery of cognitive, affective, and psychomotor tests to 625 Migrant, Former Migrant, and Nonmigrant students in Maricopa, Pinal, and Yuma County schools: John A. Lewis, Task Leader; Jacob E. Adams, Dr. Albert J. Bidwick, Jr., and Daniel S. Shaheen. This is a prime example of interstate cooperation, which is the essence of migrant education.

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David A. Lewis
President

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# SECTION A

# INTRODUCTION

SECTION A

INTRODUCTION

The purpose of this project is to provide to the Arizona Migrant Child Education Program the information required to determine whether and to what extent the educational needs of children of migrant families in Arizona are being met by present educational programs. These programs are proposed by Arizona school districts with significant migrant worker populations, and reviewed, modified, and approved for funding by the Arizona Migrant Child Education Program of the Arizona Department of Education. Approximately 10,000 children in 40 Arizona school districts are served by the program.

The Request for Proposals (RFP) issued by the Department of Education stipulated that eight questions were to be addressed in the needs assessment:

1. Have the characteristics of the migrant worker population changed significantly during the period 1960-1975? What changes, if any, in characteristics can be anticipated by 1980? What implications for educational services to migrant children do these changes have?

2. Are there identifiable sub-populations of migrant children with distinct characteristics? Do the educational needs of these sub-populations differ? In what ways?

3. In what respects do the educational needs of migrant students (by sub-population) coincide with those of the non-migratory student population? In what ways are the educational needs of the migrant children unique?

4. What public financial resources are being expended in Arizona for the purpose of aiding children of migrant families? What categories of assistance are provided? What are the sources of these funds? Which are specifically designed to aid only the migrant families?

5. For each category of assistance identified above, are there published objectives? Are the objectives so stated as to allow assessment of the program results? If not, how should the objectives be restated?

6. With respect to federally funded programs, to what degree are the planned (intended) program activities being implemented? Where disparity between intended and actual program activities exists, what changes are required to insure implementation as planned or as required by law?

7. What are the current needs (including educational needs) of migrant children? Which needs are critical and what priority should be assigned to each need? To what degree are these needs being met by present programs? How may present programs be revised to better meet these needs?

8. Considering the possible changes in the characteristics of the migrant worker population and the likely changes in social conditions in the United States, in what ways are the educational needs of migrant children likely to differ in 1980 from current needs?

D. A. Lewis Associates, Inc., was awarded the contract to perform the study as a result of the evaluation of competitive bids in response to the RFP. This firm conducted the project during the period of December 1976 to May 1977.

The relationship between this Final Report, the end product of the study, and the specifications, as set forth in the RFP, are shown in Figure 1. The eight questions in the RFP are divided into four subject areas, three of which comprise sections of the second volume of this Final Report and the other comprises the third volume.

FIGURE 1

RELATIONSHIP BETWEEN STUDY SPECIFICATIONS
IN RFP AND STUDY RESULTS AS
COMPILED IN THIS FINAL REPORT

| RFP QUESTION(S) | SUBJECT AREA | STUDY METHODOLOGY | INDEX TO FINAL REPORT |
|---|---|---|---|
| 1 | Population Trends and Characteristics | Economic and demographic analyses<br>Survey of Arizona migrant families | Volume II, Section A |
| 2,3,7 | Educational Assessment | Administration of battery of cognitive, affective, and psychomotor tests to Migrant, Former Migrant, and Nonmigrant students<br>Computerized analysis of test scores | Volume III |
| 4,5,6 | Analysis of Programs Affecting Arizona's Migrant Families | Interviews with migrant program administrators<br>Content analysis of program objectives | Volume II, Section B |

FIGURE 1 (CONT.)

RELATIONSHIP BETWEEN STUDY SPECIFICATIONS
IN RFP AND STUDY RESULTS AS
COMPILED IN THIS FINAL REPORT

| RFP QUESTION(S) | SUBJECT AREA | STUDY METHODOLOGY | INDEX TO FINAL REPORT |
|---|---|---|---|
| 8 | The Relationship Between Societal Conditions and the Identified Needs of Arizona's Migrant Students in 1980 | Delphi exercise on societal conditions in 1980<br>Interpretation of student needs in light of social, economic, and political forecast | Volume II, Section C |

## Methodologies

The methodologies used in the study are also noted for each subject area (Figure 1). On site in Arizona, we surveyed 233 migrant families, administered a battery of tests to 625 students, and interviewed 15 program administrators. Figure 2 indicates the location of the school districts within Arizona which directly participated in this needs assessment for migrant students.

From our offices in the Washington, D. C. metropolitan area, we performed analyses on those and other data including:

- Economic and demographic analysis of the migratory farmworker situation in Arizona;
- Computerized analysis of "need" based on discriminant analysis, canonical correlations, and z-score differences by 45 factors on 7 behavioral domains for the Migrant, Former Migrant, and Nonmigrant groups at 5 age levels, male and female;
- Content analysis of voluminous materials on 8 programs affecting Arizona's migrant families to ascertain program objectives and planned and actual implementation of objectives; and
- Delphi exercise on societal conditions in 1980 involving 9 expert consultants in 3 interactive rounds.

## Organization of this Final Report

This Final Report of the "Educational Needs Assessment for the Children of Arizona's Migratory Agricultural Workers" consists of three volumes.

FIGURE 2

PARTICIPATING SCHOOL DISTRICTS

Volume II, titled "Migrant Population and Programs: Characteristics and Trends," contains our response to 5 of the 8 questions in the RFP. Question 1, "Population Trends and Characteristics," is addressed in Section A, with 10 chapters; questions 4-6, "Programs Affecting Arizona's Migrant Families," in Section B, consisting of 3 chapters; and question 8, "The Relationship Between Societal Conditions and the Identified Needs of Arizona's Migrant Students in 1980," in Section C, having 4 chapters.

The evaluation of need based on the testing of students in Arizona schools comprises Volume III, "Educational Assessment." The volume has 2 sections — one focusing on the test instrumentation and results, and the other discussing current and critical needs of migrant students. Each section has 3 chapters. Volume III has 2 technical appendixes (Appendix B containing complete statistical data on which interpretation of test results is based) and a bibliography.

This Executive Summary (Volume I) summarizes the two volumes just described, advances an action plan for meeting the needs of migrant students, and presents comparisons to the results of an almost-identical study conducted in the State of Florida a year ago.

Epilogue: A Tribute to Arizona for Achieving Interstate Comparability

Arizona is the first State, to our knowledge, to conduct a migrant student needs assessment using the same test

instruments and survey methods as used in another State, thus achieving comparability of results.

Florida pioneered the comprehensive needs assessment methodology during the winter of 1975-76 with a study involving not only large-scale testing of students, but testing on a battery of cognitive, affective, and psychomotor tests; also, an analysis of public programs affecting migrant families and forecasts of population trends and characteristics and of societal conditions in 1980. That study was also conducted by D. A. Lewis Associates, Inc.

With but one exception, the tests administered in this study were those utilized in the Florida study, and the test results were statistically analyzed in the same manner. Changes and trends in migrant farmworker supply and demand and in public programs serving that population were studied by means of the same data-collection instruments and analytical techniques.

Associate Education Commissioner John H. Rodriquez and an Education Commission of the State's working paper have both recently stressed that needs assessments and evaluations should be carried on between States using comparable criteria. In keeping with that objective, the Arizona Director of Migrant Child Education, Dr. J. O. "Rocky" Maynes, Jr., contracted for the study summarized in this three-volume report.

# SECTION B

# MIGRANT POPULATION AND PROGRAMS: CHARACTERISTICS AND TRENDS

## SECTION B

## MIGRANT POPULATION AND PROGRAMS: CHARACTERISTICS AND TRENDS

There were two major components of the needs assessment: a contextual substudy and a substudy of educational and support needs of Arizona's migrant students. The former is reported upon in detail in Volume II and is summarized in this section. This component deals with the context in which migrant students and their families live and work — their numbers, characteristics, and flows; economic and political forces impacting them; public programs serving them; and what the situation now is and how it appears to be changing.

### Population Characteristics and Trends

> 1. Have the characteristics of the migrant worker population changed significantly during the period 1960-1975? What changes, if any, in characteristics can be anticipated by 1980? What implications for educational services to migrant children do these changes have?*

- The Arizona-based migrant farmworker work-force is predominantly Mexican-American (88.8 percent) with Other White the second largest group (8.2 percent).
- Family size is quite large, averaging 4.65 children per worker family. Over 30 percent of all families had six or more

* See also material developed for Question 8.

children. [This family size is significantly larger than that found for Florida-based migrant farmworkers.]

- Crew membership, although more prevalent than previous studies had indicated, remains of less significance than is true for the East Coast stream. Approximately 30 percent of all migrant farmworkers surveyed indicated that they travelled as part of a crew during the 1976 season.

- The educational level for all migrant farmworkers is appallingly low. For Arizona-based migrant farmworkers as a group, the average last grade completed was 4.8 — less than a fifth-grade education. On leaving school, they were, on average, three years behind their age group in grade level.

- A far greater percentage of the migrant farmworkers interviewed indicated that they owned property (land, house, farm, etc.) than had been anticipated. While this may be a statistical anomaly due to the sampling techniques employed, it is, nonetheless, important to note that slightly over 40 percent of those interviewed indicated that they owned property. Even more interesting is the fact that 12 percent of those who own property own property in Mexico, leading to questions concerning the legality of their status in the United States and the impact of the illegality, <u>if any</u>, on U. S. citizens who move in the migrant stream.

- The Arizona-based migrant farmworker is not new to migrant agriculture but has been travelling in the stream for an average of approximately ten years.

- Almost 90 percent of the migrant farmworkers interviewed indicated that they expected to remain in migrant agriculture, [a figure substantially greater than that found for the Florida-based population]. This figure should not be interpreted to mean that 90 percent of the present migrant farmworkers want to continue in migrant agriculture, only that they expect to, an action borne out of circumstances, not of choice.

- When settling-out finally occurs for the migrant farmworkers interviewed, a vast majority will settle-out in Arizona. The impact of this will be to place increasing demands for services on programs which serve migrants.

- When asked to identify the specific needs felt by migrant farmworker families while living in Arizona, money was both the most frequently identified and most strongly felt need. After money, the second through fifth most critical needs are Day Care, Education for Children, Education for Self, and Health Care.

- In the long run, the impact of technological change on migrant farmworkers is substantial. Unless active steps are taken, the net effect will be either widespread unemployment or a depression in the relative wage. This is of the essence, and this problem must be addressed now in order to insure that the brunt of technological change is not solely borne by that segment of the population least able to protect itself.

- In the near future, it is unlikely that any radical departure from present policies affecting migrants will develop.

It is also unlikely that any innovative program will be created. The only area in which movement may be expected is that of the illegal-alien situation. It is not anticipated that there will be a radical change in policy, but it is expected that there will be a general tightening of the borders in an attempt to minimize the impact of a continued inflow of illegal aliens on the resident population.

- The size of the Arizona Migrant Education Program is likely to continue to increase for a variety of reasons, not the least of which is the heightened awareness among parents that education may be the only means for their children to escape from the poverty cycle.

- The students enrolled in the Arizona Migrant Education Program will be increasingly from families of settled-out migrant status. The impacts of this will be that students will be enrolled for the full year and that parents will express a greater interest in their children's education.

## Analysis of Programs Affecting Arizona's Migrant Families

4. What public financial resources are being expended in Arizona for the purpose of aiding children of migrant families? What categories of assistance are provided? What are the sources of these funds? Which are specifically designed to aid only the migrant families?

5. For each category of assistance identified above, are there published objectives? Are the objectives so stated as to allow assessment of the program results? If not, how should the objectives be restated?

6. With respect to federally funded programs, to what degree are the planned (intended) program activities being implemented? Where disparity between intended and actual program activities exists, what changes are required to insure implementation as planned or as required by law?

If these questions were construed literally, there would be no programs in Arizona, other than the Migrant Child Education Program, which aids only the migrant family. However, we identified eight public programs providing important needed assistance to migrants along with other disadvantaged groups:

Health

Yuma County Migrant Health Center, Somerton

Maricopa County Health Department, Avondale

Housing

Rural Housing Authority, Yuma and Casa Grande

Legal

Legal Services for Farmworkers, El Mirage

Economic Security, Employment, Training

Department of Economic Security, Monitor Advocate Unit, Phoenix

Navajo Migrant Opportunity Program, Fort Defiance

Migrant Opportunity Program, Phoenix

Portable Practical Education Preparation, Inc., Tucson

A fact sheet on each program is provided in the text of Volume II to aid teachers and others in making referrals.

For programs serving Arizona's migrant families, published objectives have been examined in terms of six defined criteria. An objective fulfilling these criteria would be deemed adequate for purposes of program assessment. The six criteria are:

| | |
|---|---|
| WHO receives this service? | Objectives should include a description of target group. |
| WHAT types of services are provided? | Broad categories of programs should be presented. |
| WHAT specific outcomes are desired for the program? | These should be defined in observable and measurable terms. |
| HOW is service delivery implemented? | Program components that lead to the specific outcomes should be presented. |
| HOW is the success of the desired specific outcomes measured? | Instruments and procedures used should be explained. |
| WHEN are the specific outcomes to be completed? | The date at which each of the outcomes should be completed is essential. |

It was found that, in every instance, the programs under study had some form of published objectives. The purpose of the published objectives is primarily public information and not program evaluation. Consequently, an analysis of the contents of these objectives revealed, in most cases, the objectives were adequate in specifying the target population and services provided; but in other areas the objectives were somewhat weak. Suggestions were provided for strengthening noted deficiencies in objectives statements.

Federally-funded programs were examined in terms of the difficulties encountered in implementing their plans. The approach selected was, first, to consider the general difficulties encountered in the various program areas (health, housing, etc.); second, to consider the specific obstacles encountered by two programs (the largest program, Migrant Opportunity Program; and the Monitor Advocate Unit of the Department of Economic Security, which is operating under a court order); third, to consider changes in procedures, rules, or statutes that may help eliminate some of the obstacles. Representative implementation "problems" follow:

- Health services, even if available, are not always accessible to migrant families because of physical, economic, or social barriers.
- Health funds earmarked for migrants are often not coordinated through county and state government offices.
- There is fragmentation of behavioral health services and no concrete knowledge of migrants' behavioral health needs.
- The housing codes in Arizona are not enforced. Though there are laws requiring decent, safe, and sanitary housing for migrants, the conditions are seldom met.
- The 1980 Census will be taken in a month in which farmworkers are not harvesting crops. For a farmworker out of season, his response to a question concerning his last job may not be "farmwork," thus causing an underenumeration affecting planning and fund allocation decisions.

- Some public schools in Maricopa County provide no credit for students who start late in the year, and colleges in Arizona require residency for farmworkers.

- The Unemployment Insurance system for making out-of-state payments needs improvement. It now takes six weeks for the payment to reach the itinerant participant.

- There is a problem in tracing the 18-month job history for unemployment compensation.

## The Relationship Between Societal Conditions and the Identified Needs of Arizona's Migrant Students in 1980

> 8. Considering the possible changes in the characteristics of the migrant worker population and the likely changes in social conditions in the United States, in what ways are the educational needs of migrant children likely to differ in 1980 from current needs?

The Delphi technique was used to determine the ways in which the educational needs of Arizona's migrant children are likely to differ in 1980 from present needs. The panel of experts' responses were interpreted, expanded, and qualified by information obtained from tests administered to Migrant, Former Migrant, and Nonmigrant students in Arizona, other surveys and analyses comprising the needs assessment, interviews with program administrators and others in contact with migrant issues and programs, as well as library research concerning emerging public policy developments.

The Delphi exercise generated the following predictions concerning the relationship between societal conditions and the identified needs of Arizona's migrant students in 1980:

- No dramatic or abrupt economic and social changes are predicted, but continuing gradual change in such areas as mechanization, unionization, social-program development, demand on the United States to provide food for the world is indicated.
- The new Administration may impact migrant programs by streamlining programs and services as well as by being an advocate for the development of responsive social programs.
- There may be more emphasis placed in the development of rural areas.
- Little, if any, additional public funds will be applied to the benefit of migrant families.
- A Department of Education is a distinct possibility. The implications of Departmental status for the future developmental prospects of the Migrant Education program are uncertain.
- Should the country enter into an era of post-affluence or declining resources, migrants would probably suffer the consequences more so than the general population.
- Identified needs of migrant students, analyzed by the seven domains, will be impacted only slightly by 1980 (with the important qualification that intensified and concerted action following upon this needs assessment offers the chance that impact may exceed expectations) because there is little evidence

that the conditions of poverty which characterize migrant life will be different then from now.

- However, current needs will be intensified by growing self-awareness on the part of children and their parents; and a new need will have emerged by 1980 for educational services directed toward giving migrants a meaningful choice in determining their future career and lifestyle.

# SECTION C

## SUMMARY OF MIGRANT AND FORMER MIGRANT STUDENT NEEDS

## SECTION C

## SUMMARY OF MIGRANT AND FORMER MIGRANT STUDENT NEEDS

### Migrant Student Needs

In the Student's Assessment, a need is inferred when Migrant students scored significantly below their Nonmigrant counterparts on a scale or question. A summary of findings is presented in Figure 3.

### Background Domain

The findings on the Background Domain show that Migrant students more often had economic needs and communication problems interfering with education. Recognizing the need, teachers gave more of these students priority for special services. Migrant students not only experienced difficulties in the school setting but less frequently had family support at home for school efforts.

Communication problems which are more prevalent among Migrant than Nonmigrant students may be a characteristic of migrants who encounter a bilingual world. Differences on the family support factor significantly favor Nonmigrant students, with the females in each group receiving more positive support from their families than did males.

Overall, the differences are substantial, reflecting general socioeconomic and cultural factors separating Migrant and Nonmigrant students.

FIGURE 3

COMPARISON OF MIGRANT TO NONMIGRANT STUDENTS

| | Migrant | Nonmigrant |
|---|---|---|
| BACKGROUND (Teacher rating) | | |
| Economic needs interfere with education | 20% | 7% |
| Communication problems interfere with education | 29% | 8% |
| Teachers give highest priority for special services | 25% | 7% |
| Family not supportive of school effort | 23% | 8% |
| SOCIAL (Teacher rating) | | |
| Little or no voluntary participation in school activities | 30% | 18% |
| Student withdrawal interfering with education | 30% | 13% |
| Behavioral problems requiring counselor referral | 9% | 4% |
| ABILITY (Cattell's Culture Fair Test, Boehm Test) | | |
| Average IQ | Average IQ for Migrant students ages 10, 13, and 16 was 88. Average IQ for Nonmigrant students of the same age was 97. | |
| SELF-CONCEPT (Self-Observation Scales) | | |
| School Affiliation | Migrant students deficient at ages 13, 16. | |
| Self-Security | Migrant students deficient at ages 5, 7, 16. | |
| Social Maturity | Migrant students deficient at age 7. | |
| Social Confidence | Migrant students deficient at ages 13, 16. | |
| Peer Affiliation | Migrant students deficient at age 13. | |

FIGURE 3 (CONT.)

COMPARISON OF MIGRANT TO NONMIGRANT STUDENTS

| | |
|---|---|
| **ACHIEVEMENT (Metropolitan Readiness, Iowa Test of Basic Skills, Test of Academic Progress, Career Maturity Inventory** | |
| Achievement 5-year-olds | Migrant students deficient at age 5 (males) |
| Reading, Reading Vocabulary, and Reading Comprehension | Migrant students deficient at ages 7, 10, 13, 16. |
| Mathematics, Mathematics Concepts and Mathematics Problem Solving | Migrant students deficient at ages 7, 10, 13, 16. |
| Career Planning, and Career Problem Solving | Migrant students deficient at ages 13, 16. |
| **GROSS MOTOR (Physical Fitness Survey)** | |
| Explosive Power (related to maturation and growth) | Migrant students deficient at age 7. |
| Cardiovascular Endurance (related to heart and lung efficiency) | Migrant students deficient at age 13. |
| Flexibility (related to muscle tone) | Migrant students deficient at age 13 |
| Dynamic Arm Strength (related to maturation and growth) | Migrant students deficient at age 13. |
| **FINE MOTOR (Physical Fitness Survey)** | |
| Hand-Eye Coordination (related to central nervous system efficiency) | Migrant students deficient at ages 7, 13. |

Social Domain

As might be expected, Nonmigrant students' participation in school activities surpasses the involvement of Migrant students. It is interesting to note, however, that seven out of ten Migrant students do participate. The percentage of students whose withdrawal interferes with education is more than twice as great among Migrant students as among Nonmigrant students. Even though only a small percentage of behavioral problems were serious enough to require referral to counselors in both groups, the ratio of referral is twice as great for Migrant students as it is for Nonmigrant students.

Ability Domain

Differences between Migrant and Nonmigrant students on fluid ability are significant at all age levels. Fluid ability was measured by the Boehm Test and the Culture Fair Test in an attempt to remove the effect of the bilingual characteristics of migrant children. Nonmigrant students had an average IQ of 97 which closely approaches the national norm, whereas Migrant students had an average IQ of 88, almost one full standard deviation below the national norm.

Achievement Domain

Differences were noted on the Achievement Domain for all age levels tested. While differing tests, appropriate to the

age and performance level of the child, were given, each of the separate tests showed significant differences between Migrant and Nonmigrant students. The deficiencies in achievement of Migrant students, though pronounced at age 7, became greater as the student progressed through school. Using males to illustrate, at age 5 Migrant and Nonmigrant students differed by less than .49 standard deviation. When 16-year-old students were compared, the difference rose to 1.15 standard deviations. The comparison between age groups was, by necessity, made on different tests. Nonetheless, if 5-year-old students are given a test appropriate to their achievement level and 16-year-old students are given a test which provides an indication of their achievement level, age groups can then be contrasted and the intergroup differences identified are valid measures of age-related differentials.

Career Maturity was examined by means of two scales, Career Planning and Career Problem Solving. Migrant students scored significantly below Nonmigrant students in the 13- and 16-year-old groups on Problem Solving. In Career Planning, the 13-year-old students were found deficient. Given that the average migrant child leaves school at an average age of thirteen (see Vol. II — Migrant Population and Programs), Career Maturity is an important element in a Migrant students' education at that age.

Self-Concept Domain

Differences between Migrant and Nonmigrant students on Self-Concept occurred at age levels 5, 7, 13, and 16. Since relatively

few significant differences were noted at ages 5 and 7, while more were noted for ages 13 and 16, it is inferred that problems with self-concept increase with age.

One scale upon which Migrant students were found deficient relates to how the student views himself relative to his environment (i.e., Self-Security). All other scales indicating needs for Migrant students are related to the social group: School Affiliation, Social Maturity, Social Confidence, and Peer Affiliation. Given the mobile nature of the migrant students' lifestyle, it is expected that social skills and confidence have not had the opportunity to develop. To the extent that a low self-concept interferes with the education of the child, the social development of the Migrant student must become a priority.

Gross and Fine Motor

The 7- and 13-year-old groups of Migrant students are experiencing the greatest deficiency in Gross and Fine Motor development. Explosive Power and Dynamic Arm Strength (indications of maturation and growth) were found to be significantly lower for Migrant students than for Nonmigrant students at both age levels. Hand-Eye Coordination (related to central nervous system development) was also deficient for both groups. Thirteen-year olds also exhibited needs on factors related to heart and lung efficiency as well as muscle tone, i.e., Cardiovascular Endurance and Flexibility.

## Former Migrant Student Needs

Former Migrant students are said to have a need when their z-score on a given scale is significantly different (in a negative direction) from the z-score for Nonmigrant students. A summary of the findings concerning Former Migrant students' needs is presented in Figure 4 and described below.

### Background Domain

Former Migrant students were found to have a significantly greater likelihood of repeating a grade than Nonmigrant students. This finding, when viewed in light of other deficiencies in the Ability, Achievement, Self-Concept, and Gross Motor Domains, reinforces the observation that Former Migrant students are very much in need of specialized programs. Though Former Migrant students have been out of the migrant stream for as much as 5 years, their performance in many areas has not recovered from the deficiencies acquired while they were migrating.

### Social Domain

Many Former Migrant students were observed by their teachers to have little or no voluntary participation in school activities. Considering the findings on the Social Domain in light of deficiencies of the Former Migrant student on the Self-Concept Domain, the two domains appear to be related. Without inferring any causal relationship, it is interesting to note that

FIGURE 4

COMPARISON OF FORMER MIGRANT TO NONMIGRANT STUDENTS

| | Former Migrant | Non-Migrant |
|---|---|---|
| BACKGROUND (Teacher rating) | | |
| Repetition of one or more grades | 32% | 17% |
| SOCIAL (Teacher rating) | | |
| Little or no voluntary participation in school activities | 31% | 18% |
| ABILITY (Cattell's Culture Fair Test, Boehm Test) | | |
| Average IQ | Average IQ for Former Migrant students ages 10, 13, and 16 was 90. Average IQ for Nonmigrant students of the same age was 97. | |
| SELF-CONCEPT (Self-Observation Scales) | | |
| School Affiliation | Former Migrant students deficient at ages 13. 16. | |
| Self-Security | Former Migrant students deficient at ages 7, 16. | |
| School Maturity | Former Migrant students deficient at age 7 | |
| Social Confidence | Former Migrant students deficient at ages 13, 16. | |
| Peer Affiliation | Former Migrant students deficient at age 16. | |
| ACHIEVEMENT (Metropolitan Readiness, Iowa Test of Basic Skills, Test of Academic Progress, Career Maturity Inventory | | |
| Reading Vocabulary or Comprehension | Former Migrant students deficient at ages 7, 10, 13. | |
| Mathematics Problem Solving | Former Migrant students deficient at age 13. | |
| Career Problem Solving | Former Migrant students deficient at ages 13, 16. | |

FIGURE 4 (CONT.)

COMPARISON OF FORMER MIGRANT TO NONMIGRANT STUDENTS

GROSS MOTOR (Physical Fitness Survey)

| | |
|---|---|
| Flexibility (related to muscle tone) | Former Migrant students deficient at age 13. |
| Dynamic Arm Strength (related to maturation and growth) | Former Migrant students deficient at age 13 |

Former Migrant students participate voluntarily in activities infrequently and experience needs in School Affiliation, Social Maturity, Social Confidence, and Peer Affiliation.

Ability Domain

As was observed for the Migrant student, the Former Migrant student, on the average, did not score as highly on IQ as did the Nonmigrant student. The average IQ for Former Migrant students was 90 compared to 97 for Nonmigrant students. Given that the national norm on IQ is 100, Former Migrant students scored 10 IQ points below the national norm, over one-half standard deviation.

Achievement Domain

Achievement deficiencies were noted for Former Migrant students in the areas of Reading Vocabulary and Comprehension, Mathematics Problem Solving, and Career Problem Solving. While younger students (ages 7, 10, and 13) experienced problems with Reading, older students (ages 13 and 16) showed deficiencies in Mathematics Problem Solving and Career Problem Solving.

Self-Concept Domain

Former Migrant students, particularly the 13- and 16-year olds, were found to have lower Self-Concept scores than Nonmigrant students. Only two scales had significantly lower scores at age 7, Self-Security and Social Maturity. By ages 13 and 16,

School Affiliation, Self-Security, Social Confidence, and Peer Affiliation were found to be deficient in Former Migrant Students. The increase in the number of scales found with significant differences indicates that deficiencies in Self-Concept become more pronounced with age.

Gross Motor Domain

The Former Migrant student, while recovering from some of the deficiencies noted for Migrant students, nonetheless performed significantly more poorly than Nonmigrant students on two scales. These scales were Flexibility (related to muscle tone) and Dynamic Arm Strength (related to maturation and growth). The needs of the Former Migrant student occur predominantly at age 13, the time at which most students are experiencing rapid physical development.

## Differences Between Migrant and Former Migrant Students

One of the most striking findings of the students' needs assessment is the small number of scales or questions on which the Migrant student differed significantly from the Former Migrant student. As may be seen in Figure 5, significant differences were noted on only eight scales, less than 10% of the possible scales or questions. These differences were primarily noted for the 13- and 16-year age groups. The finding of a small number of differences supports the approach of providing specialized services for Former Migrant as well as Migrant children.

FIGURE 5

COMPARISON OF MIGRANT AND FORMER MIGRANT STUDENTS

| | Migrant | Former Migrant |
|---|---|---|
| BACKGROUND (Teacher rating) | | |
| Economic Needs interfering with education | 20% | 9% |
| Communication Problems interfering with education | 29% | 13% |
| Family supportive of school efforts | 23% | 10% |
| SOCIAL (Teacher rating) | | |
| Student withdrawal interfering with education | 30% | 17% |
| Behavioral problem requiring counselor referral | 9% | 3% |
| ABILITY (Cattell's Culture Fair Test, Boehm Test) | | |
| Average IQ | The average IQ for Migrant students ages 10, 13, and 16 was 88. The average IQ for Former Migrant students for the same age group was 90. | |
| SELF-CONCEPT (Self-Observation Scales) | | |
| School Affiliation | Migrant students ages 13 and 16 significantly behind Former Migrant students of the same age. | |
| ACHIEVEMENT (Metropolitan Readiness, Iowa Test of Basic Skills, Test of Academic Progress, Career Maturity Inventory | | |
| Career Problem Solving | Former Migrant students age 16 significantly behind Migrant students. | |

The Background differences that were noted are related to Economic Needs, Communication, and Family Support. It appears that families which have settled-out have a higher income, have children with fewer language problems (i.e., perhaps a better command of the English language), and are more supportive of the children's efforts in school.

Achievement differences between Migrant and Former Migrant students are also minimal. Neither mathematics nor reading skills showed notable differences.

Career Problem Solving was the only scale for which Migrant students performed better than Former Migrant students. It could be presumed that the Migrant child expects to remain in farm labor because his parents expect to continue to follow the crops (Vol. II — Migrant Population and Programs). If Migrant students feel they know what they will be doing upon leaving school, they may score higher on the Career Problem Solving scale than the Former Migrant students. This finding highlights a concern of educators, namely that Migrant students feel they need to follow the crops because they lack the knowledge of alternatives.

Socially, Former Migrant students experience less withdrawal and fewer behavioral problems requiring counselor referral than do Migrant students. It is assumed that because a student's family has settled in one place, the Former Migrant student has the opportunity to recover from the withdrawal he experienced as a migrant and feels less need to express himself through unacceptable behavioral patterns.

Differences on Fluid Ability (IQ) were not notable. Migrant students scored two IQ points below Former Migrant students. The lack of difference between settled-out and the nonsettled-out children again supports the argument for categorizing Migrant and Former Migrant children together when considering the need for services.

Differences on School Affiliation are reflective of the absence of a Former Migrant's need to travel. When students are allowed to remain at one school for some length of time, they then have the opportunity to develop friendships and form an attachment to the school.

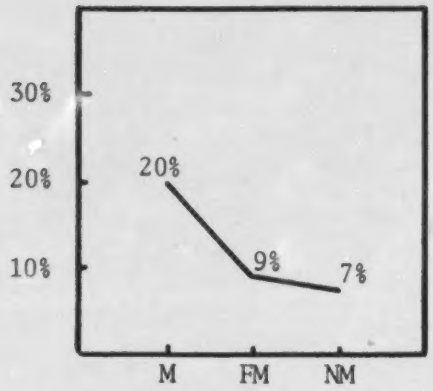
## Representative Findings

Representative findings for the students' needs assessment are displayed graphically in Figures 6 through 11. The information presented for the Background and Social Domains has been summarized into single numbers (both sexes and all age groups have been combined) in an effort to present an overall picture of the differences between Migrant, Former Migrant, and Nonmigrant students. By way of contrast, Migrant student deficiencies for both sexes and all age groups are reported for the Ability (IQ) Domain. Finally, results from the Self-Concept, Achievement, and Gross and Fine Motor Domains are complex and not readily summarized. Thus, a single age group (age 13) was selected to present a representative view of the deficiencies with which Migrant students must face the academic and social world.

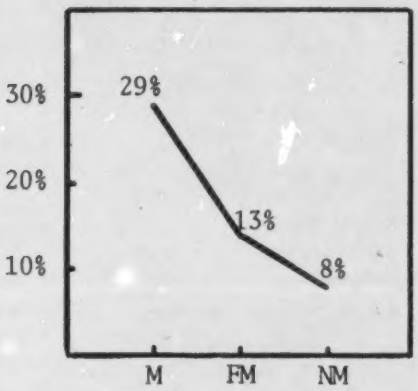
FIGURE 6

PERCENT OF MIGRANT, FORMER MIGRANT, AND NONMIGRANT STUDENTS WITH INDICATED DEFICIENCIES

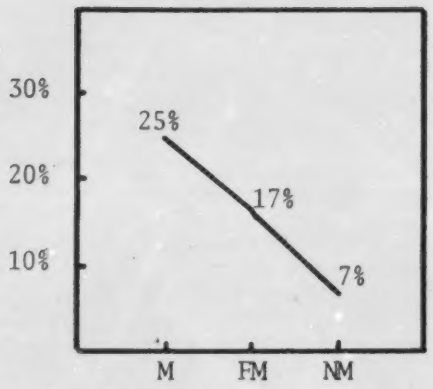
BACKGROUND DOMAIN



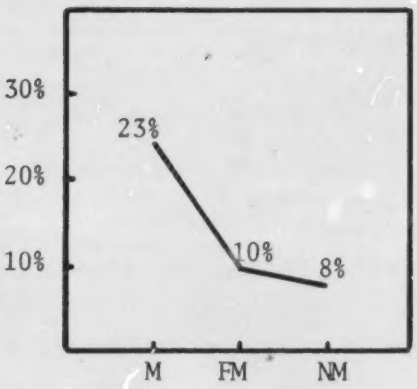

Economic needs interfere with education




Communication problems interfere with education




Teachers give highest priority for special services



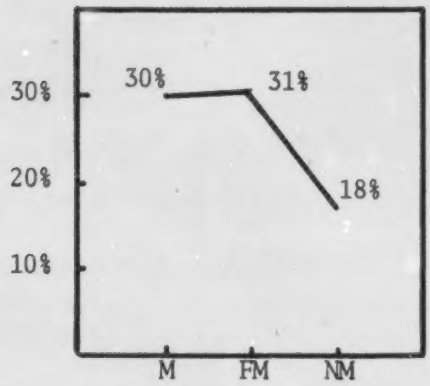

Family not supportive of school efforts

M = Migrant
FM = Former Migrant
NM = Nonmigrant
(Source: D. A. Lewis Associates, Inc., Needs Assessment for Arizona's Migrant Students)

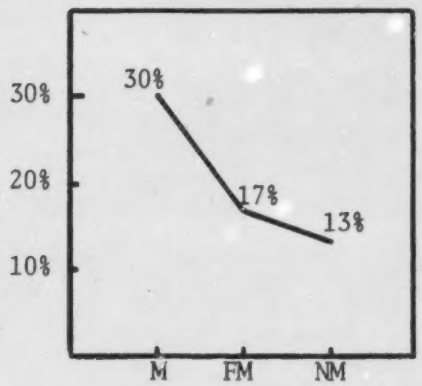
FIGURE 7

PERCENT OF MIGRANT, FORMER MIGRANT, AND NONMIGRANT STUDENTS WITH INDICATED DEFICIENCIES

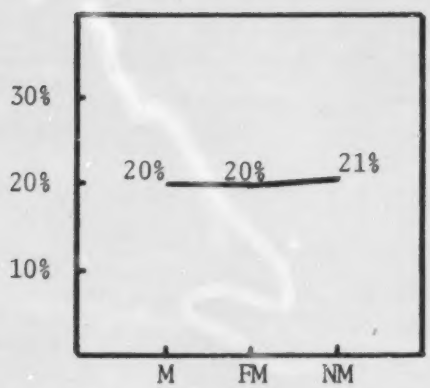
SOCIAL DOMAIN



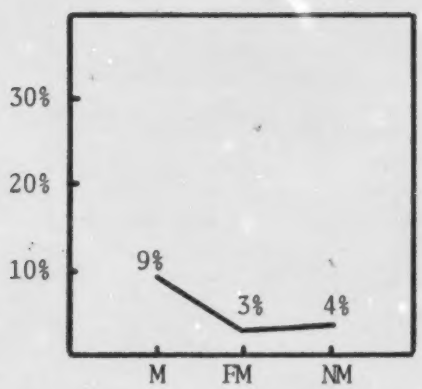

Little or no voluntary participation in school activities




Student withdrawal interferes with education




Student aggression interferes with education




Behavioral problems requiring counselor referral

M = Migrant
FM = Former Migrant
NM = Nonmigrant
(Source: D. A. Lewis Associates, Inc., Needs Assessment for Arizona's Migrant Students)

FIGURE 8

MIGRANT STUDENT DEFICIENCIES
(z-score differentials between
Migrant and Nonmigrant students)

ABILITY DOMAIN (IQ)

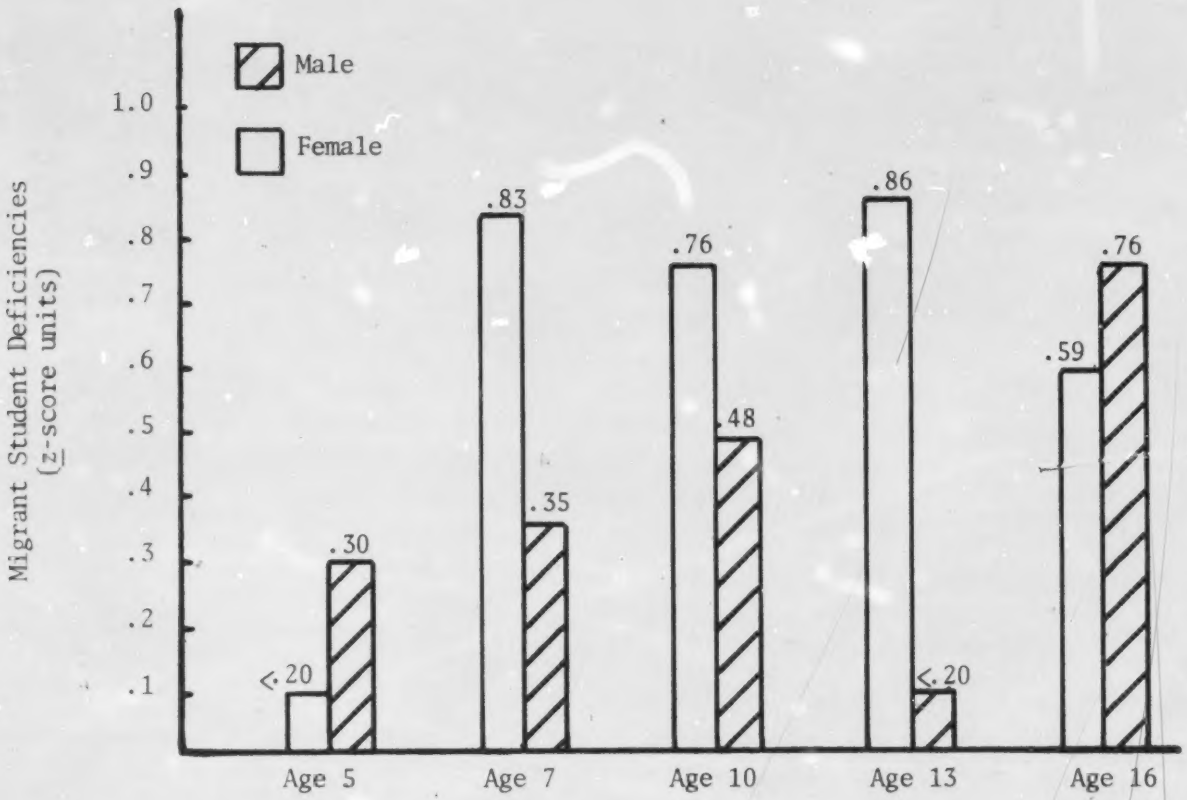


FIGURE 9

MIGRANT STUDENT DEFICIENCIES
(z-score differentials between
Migrant and Nonmigrant students)

SELF-CONCEPT DOMAIN
Age 13

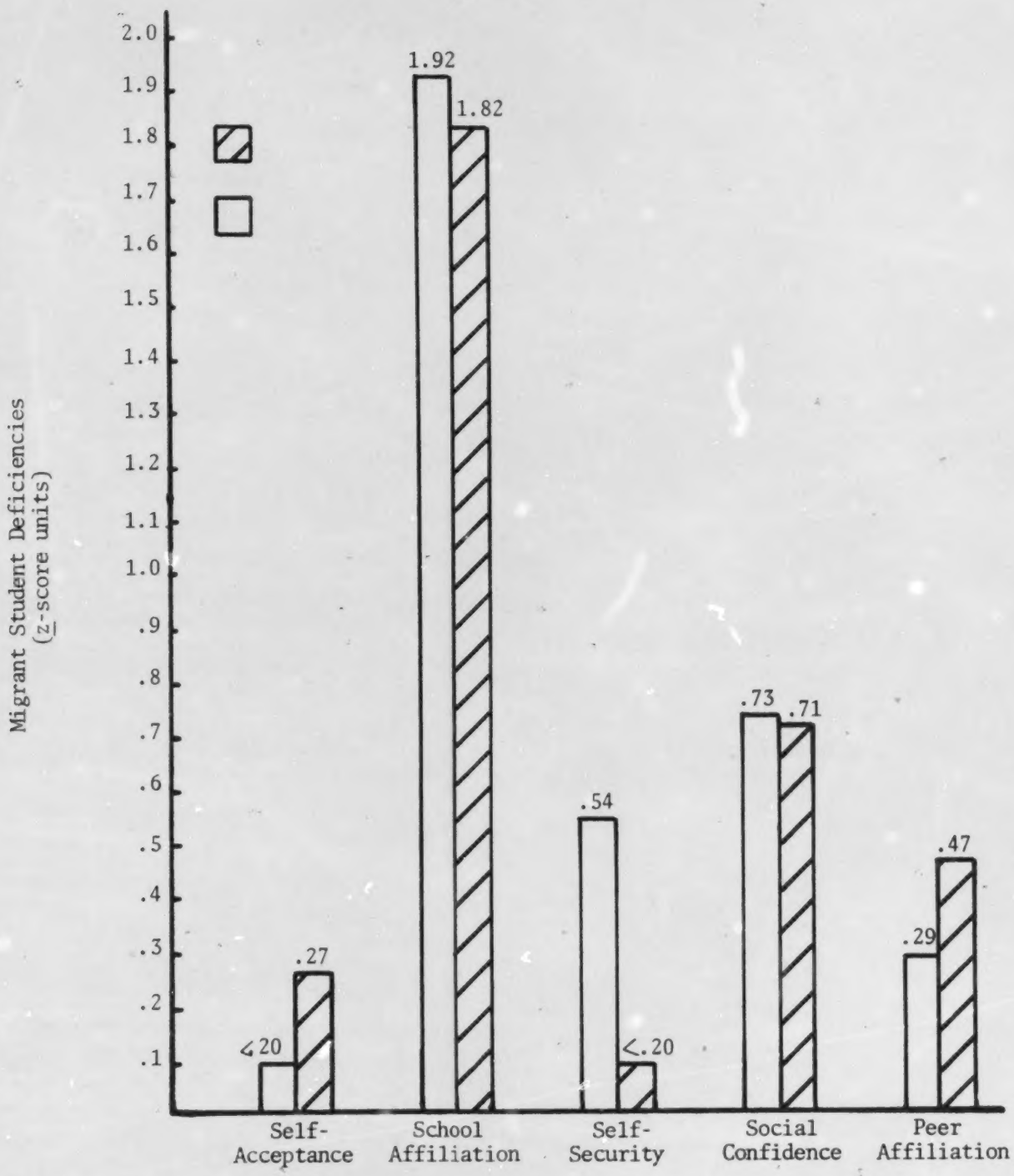


FIGURE 10

MIGRANT STUDENT DEFICIENCIES
(z-score differentials between
Migrant and Nonmigrant students)

ACHIEVEMENT DOMAIN
Age 13

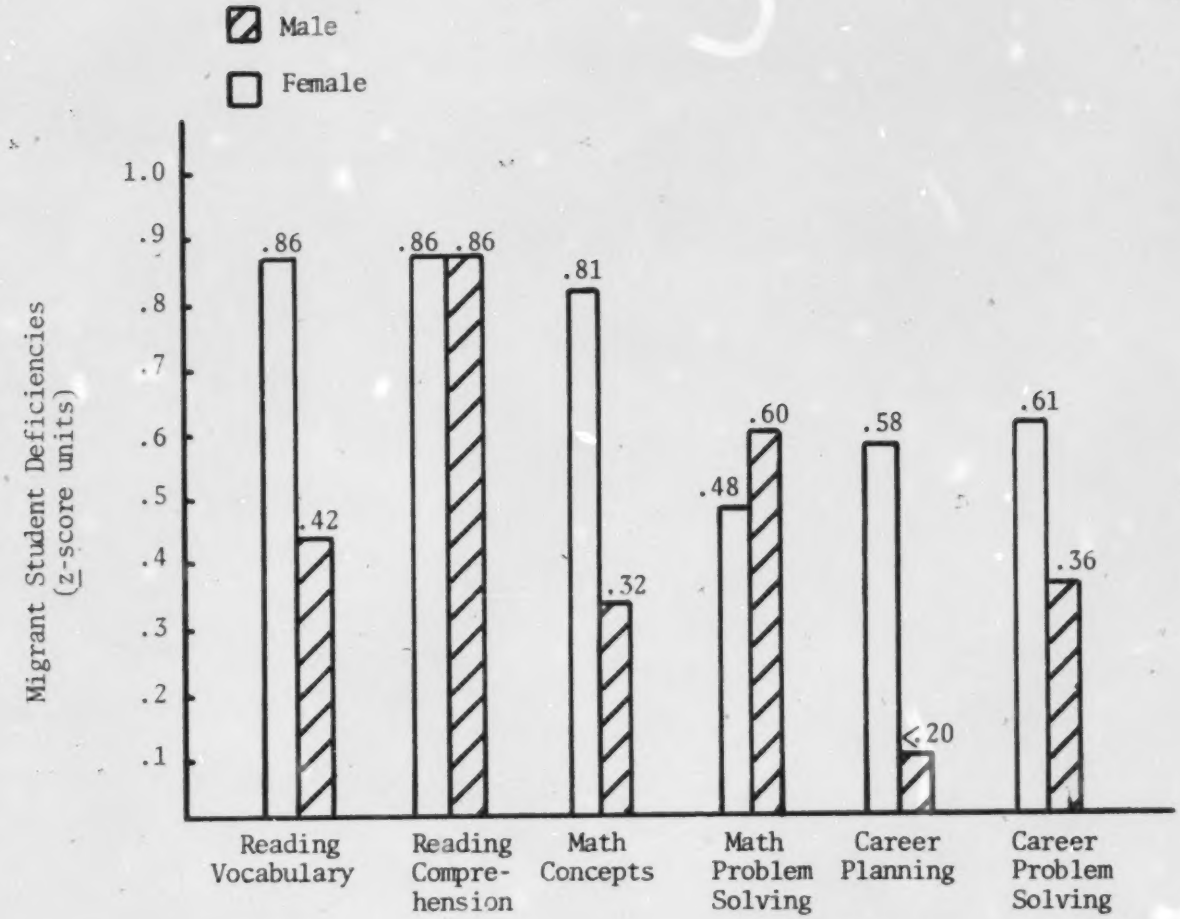
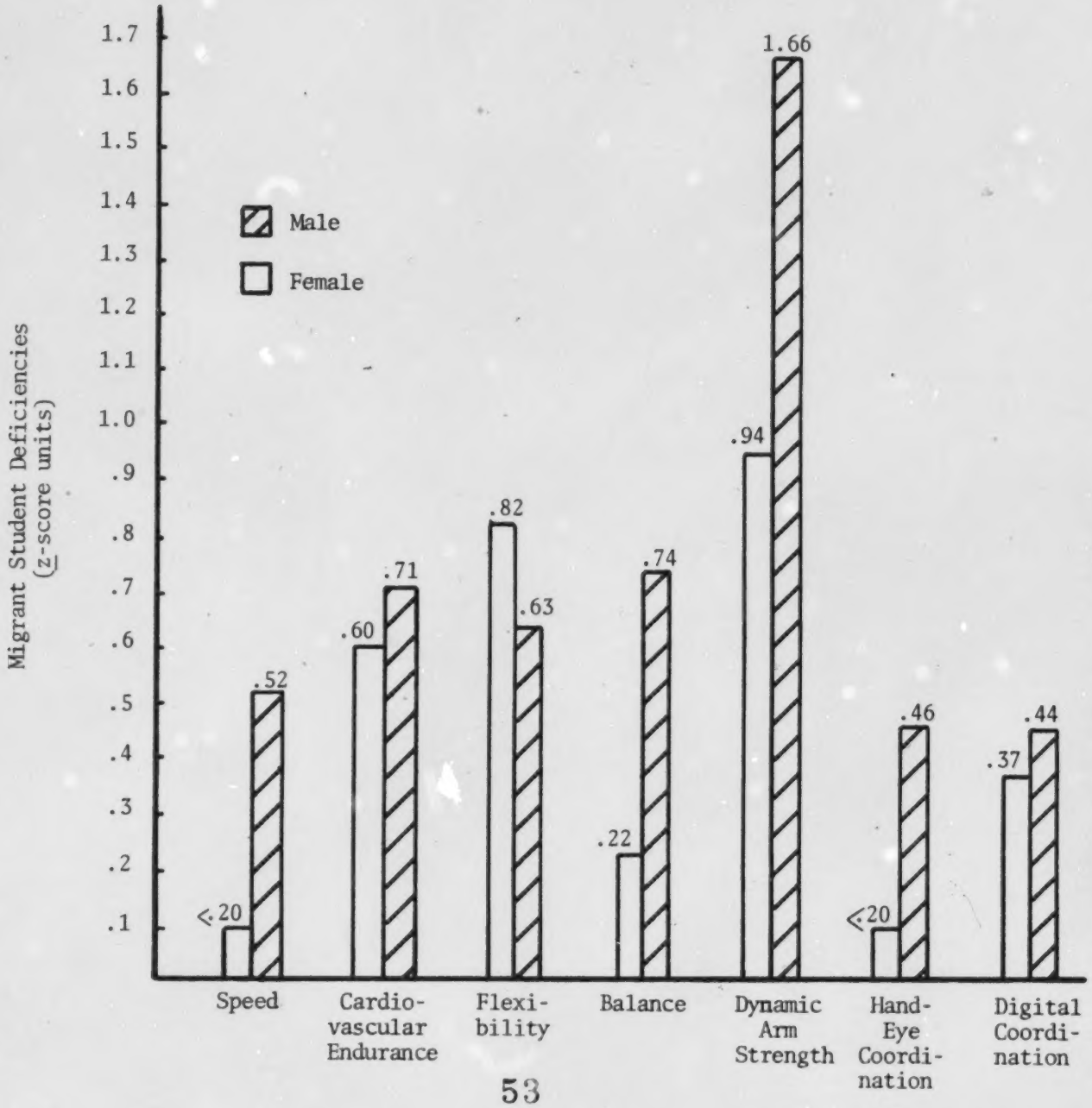


FIGURE 11

MIGRANT STUDENT DEFICIENCIES
(z-score differentials between
Migrant and Nonmigrant students)

GROSS AND FINE MOTOR DOMAINS
Age 13



# SECTION D

# RECOMMENDED ACTION PLAN

## SECTION D

## RECOMMENDED ACTION PLAN

The recurring theme of this report is CHOICES NOT CIRCUMSTANCES. From our survey of migrant families, we learned that most migrant workers are reconciled to an unending future for themselves and their children in migrancy — not necessarily because they want to follow the sun in pursuit of crops to be harvested all their days but because they cannot realistically foresee any other means of making a living. From our testing of the students, we learned that migrant children have a millstone of a deficit to lift off before they will be prepared to compete in the general economy and that the older migrant students are woefully lacking in knowledge of vocational opportunities and in planning skills that would enable them to embark upon a new way of life. From our review of public programs, we learned that services available (or more accurately, accessible) to migrants in Arizona are meager and uncoordinated and do not provide the full panoply of assistance required to break their bondage to a migrant existence. From our forecast of future developments in our society which may impact migrants, we believe that little is going to change by 1980.

This litany on economic circumstance with no choice is perhaps the millionth time the "cycle of poverty" has been described in print in varying modes of expression. Yet, poverty is still very much in our midst, and for the migrant children

in Arizona, we still have a cycle of poverty to break. This will take some time. For the young, it may be enough time.

Based on the knowledge of their needs derived from this assessment and with the hope that there is enough time, we put forward a three-year program as a means of actionizing the specific recommendations based on our findings in order to start the clock running on the time it will take to make a real difference in the lives of Arizona's migrant children.

## A Recommended Three-Year Program

The recommended Three-Year Multiple Intervention Action Program to meet the needs of children of migratory agricultural workers is the logical and necessary culmination of our research effort. It is designed to serve as a framework for a coordinated statewide affirmative action plan, based on the collective input of the theoretical and empirical data generated by this study.

The Program consists of planning and implementation phases extending over a three-year period with provisions for a continual data feedback mechanism to ensure that overall objectives will be met at the proper point in time.

### Phase 1: Planning (Program Year 1)

Activity: Dissemination of Results of this Needs Assessment

Under the terms of our contract, fifty copies of the three volumes of this report are to be provided to the Department of

Education for internal use and dissemination. Copies of individual volumes as well as complete sets should, of course, be distributed to persons and agencies who will use them to achieve the purposes for which this needs assessment was undertaken. Beyond that, however, we would recommend selective dissemination of pertinent materials by duplicating for every group in Arizona that might possibly be concerned, including legislative staff and the press, sections of the report which have a bearing on their activities and responsibilities. These excerpts should be sent under a personal cover letter signed by the appropriate State official. The advantages of this method of dissemination are that it is —

- economical (complete, expensive reports are not sent out, broadcast, or squandered in filling casual requests),
- manageable (a person or agency will receive only what he needs and can relate to and will not have to digest materials not pertinent to their own use), and
- personalized (the selectivity plus the personal transmittal convey to the recipient the message that the materials are expressly for him or her).

Dissemination of results of this needs assessment is the essential kick-off step in undertaking the recommended action program.

Activity: Convocation of Administrative Hearings

Following widespread dissemination of research results, this activity calls for the convocation of an administrative

hearing on migrant problems, held under the auspices of the Department of Education. The three goals of such a hearing would be:

1. The generation of public interest in the problems of migrants and creation of a greater awareness on the part of the public that the State is, in fact, addressing the problems.

2. Arrival at a statewide concensus among all interested parties as to the problems and needs of Arizona's migrants and a commitment to take affirmative action toward meeting those needs.

3. Formulation of a steering committee charged with the responsibility of addressing the needs in terms of the Three-Year Action Plan.

This hearing would involve both providers and consumers at both the State and local levels of services within the following areas of concern:

- Health
- Environmental Protection
- Education (early childhood, public school, vocational, adult, etc.)
- Labor and Agriculture
- Social and Rehabilitative Services
- Nutrition
- Employment and Training

and would include the participation of migrants, crew leaders, advocacy groups, spokesmen for agencies serving migrants, growers, processors, labor leaders, and others.

Activity: Formation of A Steering Committee

A steering committee with members representing each of the aforementioned areas of concern would be charged with the following suggested responsibilities:

- Setting goals and development of a coordinated planning mechanism at the State and local levels.
- Investigation of ways in which workshops could accomplish the training of agency personnel in such program-success-related skills as the development of measurable program objectives (how they are formulated; what constitutes measurable and empirical data; and how social programs can be assessed as part of an overall attempt to effectuate a coordinated multiple-intervention action plan).

Activity: Incorporation of Migrant Education's Role in the Overall Program into the Next Year's Grant Application

The planning phase will culminate with the submission to the U. S. Office of Education of the revised State plan for the Migrant Child Education program which was formulated as a result of recommendations from this study and input from recipients of needs assessment materials and participants in the legitimation process.

Phase 2: Initial Implementation (Program Year 2)

Activity: Needs Assessment: The Micro Level

The needs assessment summarized in the present report is

a Statewide assessment, a macro level assessment, which provides an overall profile of needs and a baseline against which to measure future progress.

The micro level assessment called for in this first activity of Phase 2 is an assessment of the unique problems and needs of each individual student in the Migrant Child Education program as determined by tests and other evaluations administered in the project schools.

Needs assessments at the micro level should not dwell exclusively on weaknesses. Consideration should also be given to a systematic strength assessment in which the results could be used to differentiate successful children from their less successful peers in terms of the strengths and abilities that are brought into play by these children. This approach would help to identify factors and strengths that could be utilized more effectively to remediate weaknesses — and to build on strengths.

Activity: Assessment of Available Services

Using the information provided in Volume II, Section B, of this study as a point of departure, a comprehensive overview of available services in the State can be obtained.

Activity: Matching Need and Available Services

Once an appropriate assessment of needs and services has been accomplished, the next task would be to compare the two sets of findings to identify the most effective means for bringing comprehensive services to those in need.

Activity: Implementation of Coordinated Service Delivery Plan

Consumers and appropriate providers must be brought together in the manner best suited to the locality. Ascertaining the optimal means for accomplishing this will require extensive logistical planning and experimentation. This activity is the crux of the Initial Implementation Phase.

Activity: Documentation of Results

The steering committee would be responsible for ensuring that a means for documenting results is designed and put into force through the Department of Education's data-collection control mechanism.

Activity: Evaluation

The initial implementation phase will culminate with the submission to the U. S. Office of Education of an annual evaluation report which compares Program Year 2 to Program Years 0 and 1 and discusses actions necessary to attain goals set for the Three-Year Program by the end of the ensuing year which are also reflected in the State plan.

Phase 3: Full Implementation (Program Year 3)

Program Year 3 is, at one and the same time, the last year of the recommended Multiple Intervention Action Program and the first year of a continuing, concerted program to meet the

instructional and support needs of migrant students. The activities are essentially the same as for Program Year 2, but —

— Program content will be adjusted to be made more effective on the basis of experience in Program Year 2;

— It is not necessary to have a comprehensive needs assessment of every child and his family every year although an intensive schedule must be drawn up;

— To the extent available services were assessed, were matched with needs, and were coordinated in a service-delivery plan in Program Year 2, the process does not have to be duplicated in Program Year 3; but these activities are continuous not one-time;

— To the extent these activities were not accomplished in Program Year 2, they carry the necessary priority to be accomplished in Program Year 3.

The full implementation phase will culminate with an evaluation of the degree to which initial goals were met and specific recommended actions were carried out during the Three-Year Multiple Intervention Action Program.

## Development of A Data Base

Another major and complementary task that lies ahead for the State of Arizona is the development of a data base around the migrant farmworker and his family. This process is an essential first step if the State is to develop and implement the comprehensive social service system that is necessary to address

the needs of migrant students. In order that the system be designed in such a way that its utility is maximized, a number of factors must be considered. Among these critical factors are:

Data base should be comprehensive

- Migrant worker data should be collected on demographics, health conditions, work habits, travel patterns, and plans and expectations;
- Migrant children data should be collected on demographics, educational status, and health factors;
- Social system data should be collected on educational enrollment, health service usage, and food service and welfare program registrations; and
- Economic data should be collected on agricultural production, wage rates, and unemployment rates for the current year with projections of each variable for the succeeding five-year period.

Data base should be flexible

- It must be possible to enter data for new sets of variables into the system relatively easily;
- It must be possible to call forth different data outputs (combinations of variables) as the need arises, and
- It must be possible to provide a broad range of information to all levels of decisionmakers.

Data base should be updated frequently

- An update of the data in the system should be accomplished at least annually; and
- An update of the data should include surveys of work sites, a census of school districts, testings of a sample of workers and children for health needs and children for educational factors.

Data base should be accessible

- Adequate provision for safeguarding individual privacy must be assured;
- Adequate utility must be designed-in for planners;
- Adequate availability must be provided for decision-makers at all levels (from the Governor's Office to the individual teacher); and
- Adequate clarity, readability, and understandability must be built into the data output.

The preceding sections have dealt with recommendations for change at an overall level. In this section, we detail recommendations for change that may be implemented at the school level and thus have a direct, immediate impact on migrant students. While none of the recommended changes can be implemented without some effort and cost, they are nonetheless the surest way to effect a change in migrant and former migrant student performance across all of the domains.

## Specific Recommendations

### Action 1 — Sensitize Teachers

The migrant lifestyle is unique. The living conditions and life experiences of migrant students are unlike anything experienced by nonmigrant students. Teachers must be sensitized to the fact that, while migrant students have a breadth of experience because of their mobility, their lives are typically lives of deprivation in many of the areas required to successfully compete within the educational system. An awareness of the areas in which migrant students are typically experientially and developmentally deprived will allow teachers to more effectively meet the special needs that exist.

### Action 2 — Increase Use of Bilingual Teachers

As is well known, the majority of Arizona's migrants are Mexican-Americans whose primary language is Spanish (or a variant of Spanish indigenous to the migrant subculture). The facility of migrant workers and students in English is typically low, inhibiting their potential for progress in a system that is dominated by that language. The increased use of Spanish in the classroom through the utilization of more bilingual teachers will allow the migrant child to function more effectively within the classroom, to relate more personally and positively to authority figures, and to realize that his language is not in some sense inferior. An additional benefit to the increased use of bilingual teachers will be to permit

children who are monolingual in English to develop a facility in a second language, fostering their individual development and permitting an increased interchange among all students who can more easily communicate with each other.

Action 3 — Reduce the Student-Teacher Ratio

A reduction in the student-teacher ratio is a frequent recommendation for the improvement of an educational program. For the Migrant Education Program, it is of even greater importance. The cognitive deficiencies identified by this needs assessment require a high level of individualized attention for their remediation. A reduction in the student-teacher ratio will allow a teacher to focus attention on each student as he or she needs special assistance. This reduction may be accomplished through the addition of teachers, aides, or specialists.

Action 4 — Provide One-to-One Learning Experiences

The usual interpretation given to a recommendation for one-to-one learning experiences is that teachers are to be utilized for this function. While this is excellent (and probably the optimal condition when economic circumstances permit), it is by no means the only means by which tutoring can take place. Many programs have been instituted across the country which utilize parents and unpaid volunteers to provide direct teaching for students. Further, the U. S. Office of Education (USOE) invested a substantial amount of time and energy in the

early 1970's in programs which focused on youth-tutoring-youth (YTY). In these programs, students are paired such that a student who has mastered a given area of work assists a student who has not. Studies completed by USOE have indicated that the level of comprehension of both students was enhanced as a result.

Action 5 — Provide Additional Materials and Equipment

In any production process, the maximum output is reached when inputs are in proper balance. At present, there appears to be a great need for an increase in the availability of materials and equipment in the migrant program. To the extent that additional personnel are utilized, the physical resources will be stretched even more thinly than at present. Efforts should be made to insure that an adequate supply of materials and equipment are made available to the educators who are in direct contact with migrant children.

Action 6 — Increase the Use of Consultants

Because of the many contexts in which future teachers may find themselves, teacher training is often more extensive than intensive. As a result, the education of migrant students can be enhanced through the use of consultants with specialized skills and abilities. When properly utilized, consultants can be extremely effective in meeting the special needs which migrant students have.

Action 7 — Increase Participation in School Breakfast and Lunch Programs

Free or reduced-price lunches are available to almost all migrant students at present. This is a necessary first step in meeting the needs of migrant children. Much more remains to be done, however, and we cannot be satisfied until all migrant children receive an adequate breakfast as well as lunch. The nutritional deficiencies of migrant children have been well documented and until each child is adequately nourished, their educational experience will not be maximized.

Action 8 — Provide Additional Health Follow-up Services

The Arizona migrant programs are doing an increasingly good job of screening children and identifying health problems. Because of the mobility of children and the lack of health staff and facilities, follow-up is inadequate. Greater effort must be put forward by the various health programs to implement a concerted, coordinated effort to remediate the many health deficiencies with which migrant children are daily forced to live. Until the health needs are fully met, we cannot say that we have provided migrant children with a choice not circumstances.

# SECTION E

# COMPARISON OF THE ARIZONA AND FLORIDA STUDIES

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Reference was made in the Introduction to the fact that the Arizona needs assessment was the first one performed in which the exact methodology and instrumentation used in a previous study were employed, thus providing for comparability of results. Taking advantage of that opportunity, comparisons are noted in this section between the construction and findings of the two studies.

Several differences were inherent in the populations under study. In Florida, there were almost five times as many migrant students as in Arizona; project schools were located in twenty-six counties blanketing the southern half of the peninsular State; and there was a greater ethnic mix of Black, Mexican-American, and Other White children. Consequently, the sample of students tested was much larger, contained a more adequate number of settled-out or former migrants, and provided enough cases in each of the three ethnic subgroups to permit analyses of differences between pairings of the subgroups.

The instrumentation used in the two studies was the same, with one exception: the Boehm Test of Basic Concepts was substituted for the Piaget Conservation Assessment Package because the latter proved difficult to administer in a large-scale, short-term testing program. Also, the Metropolitan Readiness Test used in Florida was revised by the publishers, Harcourt,

Brace, Jovanovich, Inc., in the interim period preceding the Arizona needs assessment; therefore, the revised version was administered in Arizona.

The final report requirement of the two studies differed. In the Florida project, one camera-ready copy of eight task reports (corresponding to the eight RFP questions, which were organized into two volumes) and 100 published copies of the Executive Summary were required. In the Arizona project, 50 published copies of all volumes were to be delivered under the terms of the contract. This difference is pointed out because the amount and technical level of the materials publicly accessible as an end product of the two studies are not the same.

In every other respect, the two studies were as nearly identical as was practicable.

## Migrant Population and Programs: Characteristics and Trends

### Population Characteristics and Trends

Direct data comparisons between the two States provide a much more complete picture of the migrant farmworker situation in the United States than would be possible with only one of the studies. These data comparisons are detailed in the paragraphs below.

In both States, the Mexican-American population is predominant in terms of the composition of the work force. The

predominance is heightened within Arizona, however (88.8 percent compared to 76.7 percent). The other statistic of significance is that Blacks comprise a very small percentage of the Arizona migrant population, whereas they are approximately 10 percent of the population in Florida.

- The number of children per family is significantly different between Arizona and Florida. In fact, family size is approximately two children larger in Arizona than is the case in Florida. The relative number of children per family is similar when one is making inter-racial comparisons.

- Information on crew membership for both States indicates that the crew system is much more active with Florida-based migrant farmworkers than is the case with Arizona-based migrant farmworkers.

- The average age for migrant farmworkers in the Arizona study was determined to be 41.1 years. This is significantly different from the figure determined for Florida, which is 33.9 years.

- Differences in educational attainment between Arizona-based and Florida-based migrant farmworkers are not significant. On average, Florida-based migrant farmworkers had completed one-half grade more than Arizona-based migrant farmworkers. By contrast, Arizona farmworkers had remained in school somewhat longer.

- Some significant differences were uncovered in the rate of property ownership of Arizona and Florida-based migrant farmworkers. The Arizona worker is about twice as likely to own

property (land, farms, or homes) as the Florida-based worker.

- Differences in the two populations are not great on the factor of work experience. The average age at which both groups started working is slightly over 14 years and both have spent approximately nine and one-half years in the field as a migrant farmworker.

- Farmworkers settle-out of migrant agriculture for two different reasons: (1) they leave the field because of opportunities presented elsewhere and (2) they plan to leave the field at some time in the future and are working in migrant agriculture only for a specific period. Plans towards settling-out, therefore, can be quite critical and can have a significant impact on worker behavior especially in terms of their reaction to social programs. The Arizona farmworker is somewhat more likely to plan to remain in migrant agriculture than is the Florida-based worker. In both cases, however, the vast majority of the farmworkers expect that they will remain in the migrant field. In both the Florida and Arizona studies, it was determined that job opportunities are the most critical factors in the decisionmaking process. One major difference was determined, however. In the case of the Arizona-based farmworker, the most important factor is an opportunity for a good job in the field of farming, with an opportunity outside of farming being of secondary importance. This is a reverse of the case for the Florida-based worker where more than twice as many workers were searching for jobs outside the field of

farming. The impact of this is that the Arizona-based worker is more likely to continue in migrant agriculture than is the Florida worker because of their preference for agriculture as a way of life.

- Arizona-based workers are significantly more satisfied with Arizona as a State in which to settle-out than Florida workers are concerning Florida. Over three-quarters of the Arizona-based workers plan to settle-out in Arizona, whereas less than 50% of the Florida-based farmworkers plan to settle-out within the State of Florida. This will have a significant impact on Arizona's social service programs.

Public Programs Affecting Migrant Families

The network of programs affecting migrant families was very much more extensive and interrelated in Florida than in Arizona. It was found that more than 50 programs potentially provide direct services to migrant families in Florida; 13 of those programs were identified as "aiding only the migrant family," of which 10 were Federally-funded. Home-grown programs, such as Organized Migrants in Community Action (OMICA), Operation Concern, and the Redlands Christian Migrant Ministry, abound in Florida. By way of contrast, using a more permissive definition, only 8 programs were identified as providers of services to Arizona's migrant families, and the Portable Practical Education Program, Inc., was the only example of a multiple-funded indigenous organization.

Problems in program administration were found to be similar, however. Among them are the lack of a data base on migrant farmworkers, program objectives which are deficient in terms of performance measures, dilution of program intent downward and lack of effective coordination outward, and geographical areas without a complete range of needed services.

Societal Conditions in the United States in 1980

The Arizona Delphi exercise served the purpose of updating the Florida one inasmuch as the subject was unchanged and little about each exercise was State-specific, and the intervening Presidential election brought about a noticeable clarification in forecasting ability. The Florida study was conducted prior to the election. Even though the majority of the panel of experts felt there would be no major changes impacting the migrant community, they were quick to point out that it was difficult to conjecture about future developments due to uncertainty as to the Administration that would be in charge from 1977 past 1980.

The Arizona needs assessment was conducted shortly after President Jimmy Carter had been elected. Even though the Carter Administration had not become fully operational at the time the Delphi exercise was conducted, most panelists felt the new Administration would initiate programs and formulate policies which could impact migrant families in a significant manner.

## Educational Assessment

### Background Domain

The Background characteristics of migrant students are similar in both States. The factors which comprise the Background Domain provide significant evidence that the effects of poverty are symptomatic of the migrant students "quality of life." These factors undoubtedly affect the educational achievement of the migrant student.

### Social Domain

In both States, Nonmigrant students are more often rated by their teachers as being voluntarily involved more in school activities than Migrant and Former Migrant students. In Florida, Former Migrant students are more often rated as behaviorally disruptive; in Arizona the three groups, Migrant, Former Migrant, and Nonmigrant students, exhibit nearly the same amount of student aggression.

### Ability Domain

A comparison of the Arizona and Florida studies reveals striking similarities between the two groups. In each case, Nonmigrant students scored significantly higher than Migrant students. Whereas in the Florida study, differences among both males and females increased with age, scores of females in Arizona remain fairly constant in contrast to males whose

differences increased with age. Since the Arizona migrant student population is almost entirely Mexican-American, contrasts between racial/ethnic groups could not be conducted in that State.

Self-Concept Domain

In both states, the studies indicated very startling similarities. In some cases, the patterns are almost carbon copies. The conclusion is the same in both studies: Nonmigrant students have positive self-concepts to a significantly greater degree than do either Migrant or Former Migrant students, and the Nonmigrant student's advantage in self-concept becomes greater as age increases.

In both studies the increased difference with age suggests a problem in the processes of socialization. This negative process begins to give feedback to Migrant and Former Migrant students around age 7 and apparently increases in intensity with each additional year of schooling until by sixth grade a depressed self-concept profile emerges.

Achievement Domain

Numerous similarities can be found in the Arizona and Florida studies. In both cases, the cumulative deficit pattern indicates that 5-year-old migrant students are less academically disadvantaged than older migrant students. In Florida and Arizona, although the needs of Migrant students are

significant in both reading and mathematics achievement, reading needs are slightly higher than mathematics. The need for career information was found to be critical in both studies.

Gross and Fine Motor Domains

In the Florida study, Migrant students were found to have serious gross motor deficiencies with the greatest needs being evident among 7- and 10-year olds, whereas the Arizona study revealed the greatest needs being evident among male Migrant students of all ages. The largest differences between Migrant and Nonmigrant students appear on the Cardiovascular Endurance, Flexibility, and Balance factors in the Florida study. The Arizona study revealed that the largest differences between Migrant and Nonmigrant students appear on the Explosive Power, Cardiovascular Endurance, and Dynamic Arm Strength factors.

In the Fine Motor Domain, the Florida study pointed out a higher level of performance for Nonmigrant students on both factors (Hand-Eye Coordination, Digital Coordination) among female students. This differs from the Arizona finding in that only males appear to have significant needs in Digital Coordination.

This brief comparison shows that in both studies Migrant students have serious gross and fine motor needs but varying to some degree in factors and among males and females.

## Some Ways in Which the Arizona Study Benefitted from the Forerunner Florida Study

Successive attempts to accomplish the same objective should result in greater efficiencies and valuable lessons from prior problemsolving. We believe the Arizona needs assessment is of higher quality and greater utility than it would have been had not our project team had the experience gained from the study in Florida. Any future needs assessments for which we may be enlisted should, in turn, benefit in important ways from logistical and other improvements made while dealing with exigencies arising in the Arizona effort. The conduct of comprehensive needs assessments for migrant students is rapidly becoming a well-charted procedure.

There are at least three major contributions (and countless minor contributions) the Florida experience has made to this needs assessment.

Conceptual Foundation — Many methodological decisions and inventions had to be made during the course of the Florida study which were either closely followed or refined but not reinvented for the Arizona study. The methods discussed in Section A of this Executive Summary, as well as the instrumentation to obtain the requisite data, were all developed or adapted by our staff or our subcontractor, Ibex, Inc., during the previous study. This provided a ready-built foundation for which the Arizona surveys and tests were constructed,

saving a great deal of start-up effort. The Florida methodology proved to be sound so there was no need to change it significantly for this iteration. Some improvements were made during the Arizona experience; they were mainly methodologically few and procedural. The fact that the conceptual foundation laid in the first study could be replicated for the second study also enhances the results of both and of future studies by providing for comparability from State to State and over time.

Data Presentation — Considerable ingenuity went into the display of the enormously complex and voluminous array of test data in the Florida report. Even so the tables proved difficult to master for nearly everyone who needed to understand them. While we probably can still take measures to further facilitate comprehension, we believe the separation and different technical levels of data presentation for lay and technical users greatly aids readability and, hence, the usefulness of this report.

Research Utilization — The Florida Department of Education employed an experienced educator for the summer following delivery of the Final Report in April 1976 to be responsible for widespread but selective dissemination of needs assessment results. In our experience as researchers, we had never witnessed a better example of research utilization, and we subsequently used the Florida needs assessment as a model case in a panel presentation to the Human Resources Section of the American Society for Public Administration. Our major

recommendation for immediate and aggressive dissemination of the results of this needs assessment (see Section D) is an outgrowth of the Florida experience. It is a deplorable waste when the product of any competent study gathers dust in a storeroom shelf or on numerous individual office bookcase shelves. For this to happen to a needs assessment, by the very nature and purpose of a needs assessment, is unconscionable. We know the Arizona program personnel well enough to know that the results of this needs assessment will be well applied, but we feel Florida has shown the most economical, manageable, and personalized way to begin the process of translating words in a report to action in behalf of migrant children.